

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**SJ04006PCT--**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2004/019412**

International filing date (day/month/year)

**24.12.2004**

Priority date (day/month/year)

**07.01.2004**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**SUMITOMO HEAVY INDUSTRIES, LTD.**

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/IP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019412

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2004/019412

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

**2. Citations and explanations:**

Document 1: JP 2003-297538 A (Matsushita Electric Industrial Co. Ltd.), 17 October 2003  
 Document 2: JP 7-329138 A (Fanuc Ltd.), 19 December 1995  
 Document 3: JP 61-132319 A (Sanyo Electric Co. Ltd.), 19 June 1986  
 Document 4: JP 2001-328139 A (Miyaden Co. Ltd.), 27 November 2001  
 Document 5: JP 6-335954 A (Mitsuba Manufacturing Co. Ltd.), 06 December 1994  
 Document 6: JP 2001-204184 A (Sumitomo Heavy Industries Co. Ltd.), 27 July 2001  
 Document 7: JP 11-289793 A (Sumitomo Heavy Industries Co. Ltd.), 19 October 1999

**Claims 1-10**

Claims 1-10 do not appear to involve an inventive step over documents 1-7 cited in the ISR.

It would be easy for a person skilled in the art to supply a current from a direct current power source portion to an inverter and to control a servo motor with the inverter as in documents 2-3 in an electromagnetic induction heating device having a heating unit for heating a heating cylinder and an inverter device for supplying a high-frequency current to the heating unit of document 1. It would also be easy for a person skilled in the art to perform frequency control between a few hertz and tens of hertz as in documents 4-5, to provide a switch mechanism to the input side of the inverter as in document 6, and to provide a circuit for regulating the voltage on the input side of the inverter as in document 7.

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- ☒ Box No. I Basis of the opinion
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- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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a. type of material

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	<u>1-10</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	_____	YES
	Claims	<u>1-10</u>	NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims	_____	NO
<b>2. Citations and explanations:</b>			
<p>Document 1: JP 2003-297538 A (Matsushita Electric Industrial Co. Ltd.), 17 October 2003</p> <p>Document 2: JP 7-329138 A (Fanuc Ltd.), 19 December 1995</p> <p>Document 3: JP 61-132319 A (Sanyo Electric Co. Ltd.), 19 June 1986</p> <p>Document 4: JP 2001-328139 A (Miyaden Co. Ltd.), 27 November 2001</p> <p>Document 5: JP 6-335954 A (Mitsuba Manufacturing Co. Ltd.), 06 December 1994</p> <p>Document 6: JP 2001-204184 A (Sumitomo Heavy Industries Co. Ltd.), 27 July 2001</p> <p>Document 7: JP 11-289793 A (Sumitomo Heavy Industries Co. Ltd.), 19 October 1999</p> <p> Claims 1-10</p> <p>Claims 1-10 do not appear to involve an inventive step over documents 1-7 cited in the ISR.</p> <p>It would be easy for a person skilled in the art to supply a current from a direct current power source portion to an inverter and to control a servo motor with the inverter as in documents 2-3 in an electromagnetic induction heating device having a heating unit for heating a heating cylinder and an inverter device for supplying a high-frequency current to the heating unit of document 1. It would also be easy for a person skilled in the art to perform frequency control between a few hertz and tens of hertz as in documents 4-5, to provide a switch mechanism to the input side of the inverter as in document 6, and to provide a circuit for regulating the voltage on the input side of the inverter as in document 7.</p>			